

THIS IS A RED Stamp

**ROCKY FLATS PLANT
EMD OPERATING
PROCEDURES MANUAL**

Manual No.: 5-21000-OPS-FO
 Procedure No.: Table of Contents, Rev 50
 Page: 1 of 4
 Effective Date: 06/29/93
 Organization: Environmental Management

THIS IS ONE VOLUME OF A SIX VOLUME SET WHICH INCLUDES:

VOLUME I: FIELD OPERATIONS (FO)
 VOLUME II: GROUNDWATER (GW)
 VOLUME III: GEOTECHNICAL (GT)
 VOLUME IV: SURFACE WATER (SW)
 VOLUME V: ECOLOGY (EE)
 VOLUME VI: AIR (AP)

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FO.02	Transmittal of Field QA Records	3	05/22/92
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FO.03	General Equipment Decontamination	2	05/12/92
DCN 92.01	EXPIRED (Clarification of Decontamination)	2	Expired
DCN 92.02	Update to Clarification of Decontamination	2	12/12/92
DCN 93.01	CPT Rods	2	02/16/93
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ADMIN RECORD

DOCUMENT CLASSIFICATION REVIEW WAIVER
 PER R.B. HOFFMAN, CLASSIFICATION OFFICE
 JUNE 11, 1991

A-SW-000655

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Effective Date: 06/29/93
Organization: Environmental Management

<u>Procedure No.</u>	<u>Title</u>	<u>Rev. No.</u>	<u>Effective Date</u>
FO.07	Handling of Decontamination Water and Wash Water	2	05/12/92
DCN 92.01	Consistency Change	2	09/18/92
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DCN 92.04	EXPIRED (Clarification of Drill Cuttings)	2	Expired
DCN 92.05	EXPIRED (Handling of Drilling Fluids and Cuttings)	2	Expired
DCN 92.06	Clarification of Responsibility	2	09/09/92
DCN 92.07	Elimination of Drilling Requirements on Earthen Dams	2	09/10/92
DCN 92.08	Consistency Change	2	09/18/92
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DCN 92.10	Improve Tracking of Samples	2	12/07/92
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FO.09	Handling of Residual Samples	2	05/12/92
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DCN 92.03	EXPIRED (Replaced by DCN 93.01 dated 2/10/93)	2	Expired
DCN 92.04	EXPIRED (Decrease in Weekly Inspections) of Gray Drums)	3	Expired
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DCN 92.06	Improve Accountability	2	10/15/92
DCN 92.07	Expired	2	Expired
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DCN 93.02	Renewal (DCN 92.07)	2	03/17/93
DCN 93.03	Number of Drums per Pallet	2	05/11/93
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•DCN 93.05	Drum Labeling Change	2	06/29/93
•DCN 93.06	Drum Sample Numbers	2	06/29/93
FO.11	Field Communications	2	05/12/92
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<u>Procedure No.</u>	<u>Title</u>	<u>Rev. No.</u>	<u>Effective Date</u>
FO.13	Containerization, Preserving, Handling and Shipping of Soil and Water Samples	2	05/12/92
DCN 92.01	Chain of Custody	2	07/27/92
DCN 92.02	Improve Tracking of Samples	2	12/08/92
DCN 93.01	Chain of Custody Record	2	02/10/93
DCN 93.02	Air Bill COC	2	05/18/93
FO.14	Field Data Management	2	05/12/92
DCN 92.01	EXPIRED (Update Bottle Codes and Lab Codes to Current Status)	2	Expired
DCN 92.02	Clarification of Biological Locations (07/08/92- Extended)	2	11/20/92
DCN 92.03	Changes in Procedures (07/08/92 - Extended)	2	11/20/92
DCN 92.04	Expired	2	Expired
DCN 92.05	Update QA/QC Code List	2	09/28/92
DCN 92.06	Clarify Description	2	09/28/92
DCN 92.07	Update Bottle Code List	2	09/28/92
DCN 92.08	Add Sub-Contractor Abbreviations	2	10/14/92
DCN 92.09	Major Form Revision	2	11/03/92
DCN 92.10	Elimination of Non-Required Section	2	11/10/92
DCN 92.11	Update Bottle Code & Lab Codes to Current Status	2	12/09/92
DCN 93.01	New Codes	2	01/15/93
DCN 93.02	New Samplers and New Media	2	01/15/93
DCN 93.03	Field Data for RFEDS	2	02/10/93
DCN 93.04	RFEDS Back-up	2	03/18/93
FO.15	Photoionization Detectors (PIDs) and Flame Ionization Detectors (FIDs)	2	05/12/92
FO.16	Field Radiological Measurements	2	05/12/92
DCN 92.04	EXPIRED (Seismic Lines)	1	Expired
DCN 92.05	Addition of HPGe	2	11/24/92
DCN 93.01	FIDLER Surveys	2	01/15/93
DCN 93.02	LUDLUM/FIDLER Guidance	2	06/29/93
FO.17	Determining Out-Of-Specification Analytical Results for Environmental Samples		To Be Added

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<u>Procedure No.</u>	<u>Title</u>	<u>Rev. No.</u>	<u>Effective Date</u>
FO.18	Environmental Sample Radioactivity		
	Content Screening	1	05/12/92
DCN 93.01	Clarification of Procedure	1	01/11/93
FO.19	Base Laboratory Work	2	05/12/92

ENVIRONMENTAL MANAGEMENT DOCUMENT CHANGE NOTICE (DCN)

This is a RED Stamp
Procedure Number 5-21000-OPS- FO.8, Rev.2

Page 1 of 4

Title Handling of Drilling Fluids and Cuttings	Date 6-29-93 RD	DCN Number 5-21000-OPS- 9301
Expires 6-29-94	Procedure Revision Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Scope Limitation none		

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
1	2 of 12	3.0 paragraph 3	(substitute the following paragraph for the current paragraph) The subcontractor is responsible for the drumming of drill cuttings. Drums containing cuttings will be transferred to the custody of EG&G, ER-Facilities Operation Management (FOM) only after all necessary paperwork has been received, accepted, and the drums have passed a final inspection. Characterization will be based on the analytical results associated with the drums' contents. The drums contents will be containerized in accordance to the EG&G Waste Requirements Procedures Manual, 5-23000-WRP; the EG&G Waste Requirements Manual, 1-10000-WRM; and EMD Operating Procedures, 5-21000, Volume 1, FO.08 section 6.4.1, and FO.10. <i>6-24-93</i>
2	2 of 12	3.0 paragraph 4	(add underlined to the end of the sentence) The subcontractor is also responsible for moving environmental liquids associated with EM drilling activities to holding tanks located at the main EG&G decontamination facility <u>and drill cuttings to an Investigation Derived Materials (IDM) accumulation area per FO.10.</u>
3	2 of 12	3.0 paragraph 5	(Substitute the first sentence with the following) It is the subcontractor's site manager's responsibility to report as soon as possible to the EG&G, ER-FOM representative any damage <u>per</u> occurred to a drum. <i>6-25-93</i>

Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above)

all item #s:

To obtain consistency between FO.08 and FO.10.

DOCUMENT CLASSIFICATION REVIEW WAIVER
PER R.B. HOFFMAN, CLASSIFICATION OFFICE
JUNE 11, 1991

Concurrence	Organization	Req	Date	Concurrence	Organization	Req	Date
<i>[Signature]</i>	QAPM	X	6/28/93	<i>[Signature]</i>	User	X	6/18/93
				<i>[Signature]</i>	User	X	6/18/93
				<i>[Signature]</i>	EQS	X	6/23/93
	DOE NAB 6/24/93	X		<i>[Signature]</i>	User	X	6/24/93
Approval of Responsible Manager <i>[Signature]</i>		Date 6-21-93		Is Posting Req'd? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If Yes, By What Date? upon receipt	
						Date Posted	

DOCUMENT CHANGE NOTICE (DCN) (continuation sheet)

Page 2 of 4

DCN Number 93.01
see

Procedure Number 5-21000-OPS-FO.8, REV.2	Title Handling of Drilling Fluids and Cuttings
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Scope Limitation none

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
4	3 of 12	3.0 paragraph 6	(substitute the following for the entire paragraph) The EG&G project manager will use subcontractor personnel to conduct weekly inspections of all the drums issued to the subcontractor until the drums are relinquished to the custody of EG&G, ER-Facilities Operations Management, (FOM). These inspections will ensure that the drum integrity, drum management, and drum labeling is maintained.
5	5 of 12	5.0	EQUIPMENT <u>Add</u> Plastic drum liners for drums
6	6 of 12	6.0 paragraph 1	CONTAMINANT CHARACTERIZATION <u>Add</u> Potential Areas of Concern (PACs) Additional Areas of Concern (AACs) <u>Delete</u> Protected Area (PA)

Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above)

all item #s:

To obtain consistency between FO.08 and FO.10

DOCUMENT CHANGE NOTICE (DCN) (continuation sheet)

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DCN Number 9301
SLRD

Procedure Number 5-21000-OPS-FO.8, REV.2	Title Handling of Drilling Fluids and Cuttings
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Scope Limitation none

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
7	6 of 12	6.0 paragraph 2	(add underlined at the end of first sentence) Drill cuttings generated during EM field operations will be handled by containerizing them in 55 gallon or 30 gallon gray drums as they are generated, <u>with the exception of EM field operations within the dams. EM field operations conducted off-site, or if the drillsite does not require drumming.</u>
8	10 of 12	6.4.1 paragraph 1	(add underlined and remove underlined in parentheses) Handling Drill Cuttings Drill cuttings will be contained in gray , <u>open top</u> drums <u>with liners</u> (See SOP FO.10 Receiving, Labeling, and Handling Environmental Containers), <u>(regardless of the work area characterization)</u> . Prior to the filling of the drum <u>a minimum of</u> two liters of desiccant will be placed in the bottom of the drum <u>liner</u> and <u>a minimum of</u> two additional liters will be put in the drum when it is half full. Cuttings will be placed in the drum up to six inches from the top. After filling, these gray drums will be sealed, marked, and placed on a leveled pallet at the drilling site. <u>Both empty and filled drums must be stored on pallets with no more than three 55 gallon or four 30 gallon drums per pallet</u> . Once the laboratory analytical results of the environmental samples <u>have been received</u> they will be assessed by EG&G. If the drums contents are determined to be uncontaminated or pose no risk, the contents will be disposed of (<u>in the landfill</u>) <u>and the container, if in good condition, will be repainted, renumbered, and reused.</u> If the drums contents are determined to contain hazardous substances, mixed <div style="text-align: right;">(if required) <u>AM</u> see DCN 92.10 <u>6/23/93</u></div>

Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above)

all item #s:

To obtain consistency between FO.08 and FO.10

DOCUMENT CHANGE NOTICE (DCN)
(continuation sheet)

Page 4 of 4
DCN Number 93.01
S&S

Procedure Number 5-21000-OPS-FO.8, REV.2	Title Handling of Drilling Fluids and Cuttings
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Scope Limitation none

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
8	10 of 12	6.4.1 paragraph (contd)	substances, or radioactive substances, (<u>the drums will be painted . . .</u>) <u>the contents will remain in gray drums until the Record of Decision (ROD) and remediation requirements are decided upon or repack/ship is determined</u>
9	12 of 12	6.4.2 paragraph 3	The residual sediments will be placed in gray grums according to section 6.4.1 of this procedure; FO.10; and the EG&G WRM, section WP 1027.

Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above)

All item #s:

To obtain consistency between FO.08 and FO.10

CONTROLLED DOCUMENT
EGGC - CHEMICALS PLANT
ENVIRONMENTAL MANAGEMENT DEPARTMENT

ENVIRONMENTAL MANAGEMENT DOCUMENT CHANGE NOTICE (DCN)

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Procedure Number 5-21000-OPS- FO.10 , Rev 2

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Title Receiving, Labeling, and Handling Environmental Materials Containers				Date 6-29-93		DCN Number 5-21000-OPS-93.05	
Expires 6-29-94				Procedure Revision Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		SUPER	
Scope Limitation none							
Item Number		Page		Step or Paragraph		Changes (Use DCN CONTINUATION SHEET for Additional Space)	
1		14 of 19		7.2.2 paragraph 2		<p>Add at end of second bullet beginning "In addition...":</p> <p>In addition to the standard drum labeling the words <u>Free Liquids</u> or <u>No Free Liquids</u> will be written in paint pen above each of the drum labels on each drum. Free liquids are defined as "Liquids which readily separate from the solid portion of a waste under ambient temperature and pressure".</p>	
<p>Justification (Reason for Change - Provide Numbers To Reference Corresponding Items Above)</p> <p>Item # 1:</p> <p>To make field determinations concerning free liquids in the field so that drums coming out of the field can be properly managed</p> <p style="text-align: right;">DOCUMENT CLASSIFICATION REVIEW WAIVER PER R.B. HOFFMAN, CLASSIFICATION OFFICE JUNE 11, 1991</p>							
Concurrence		Organization		Req		Date	
[Signature]		QAPM		X		6/25/93	
[Signature]		[Signature]		User		X	
[Signature]		EQS		X		6/23/93	
[Signature]		USER		X		6/24/93	
DOE		[Signature]		[Signature]		[Signature]	
Approval of Responsible Manager [Signature]				Date 6/14/93		Is Posting Req'd? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
				If Yes, By What Date? upon receipt		Date Posted	

ENVIRONMENTAL MANAGEMENT
DOCUMENT CHANGE NOTICE (DCN)

is a RED Stamp

Procedure Number 5-21000-OPS- FO.10 Rev. 32

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Title Receiving, Labeling, and Handling Environmental Materials Containers	Date 6-29-93 6/1/93 <i>ALL</i> <i>6/23/93</i>	DCN Number 5-21000-OPS- 93.06
Expires 6-29-94 <i>SEPS</i>	Procedure Revision Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>SEPS</i>
Scope Limitation none		

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
1	18 17 of 19	8.1, last 4	<i>underlined to 2nd to last sentence:</i> Add In addition to the drum marking, the Drum Field Log Form will identify the drum, <u>provide associated sample numbers of the material contained in the drum, plus</u> provide a history of the drum." <i>OK 6/23/93</i>

Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above)

Item #1:

To clarify confusion concerning associated sample ID numbers portion of the drum field log form.

DOCUMENT CLASSIFICATION REVIEW WAIVER
PER R.B. HOFFMAN, CLASSIFICATION OFFICE
JUNE 11, 1991

Concurrence	Organization	Req	Date	Concurrence	Organization	Req	Date
<i>[Signature]</i>	QAPM	X	6/25/93	<i>E. a 92</i>	User	X	6/1/93
				<i>Michael Murick</i>	User	X	6/17/93
				<i>MLB</i>	EQS	X	6/23/93
	<i>DOE</i>	<i>MLB</i> <i>6/23/93</i> X		<i>ALP</i>	RPM	X	6/24/93
Approval of Responsible Manager <i>[Signature]</i>	Date 6-21-93	Is Posting Req'd? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, By What Date? <i>upon receipt</i>	Date Posted			

ENVIRONMENTAL MANAGEMENT
DOCUMENT CHANGE NOTICE (DCN)

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DOCUMENT NUMBER Procedure No. 5-21000-OPS-FO.16 Rev. 2

PAGE 1 OF 2

Title Field Radiological Measurements	Date <u>6-29-93</u> May 12, 1993 <i>6/18/93</i>	DCN Number 5-21000-OPS-FO.16 REV. 2 <u>93-93.02</u> 93-93.02 <i>SURE</i>
Expires <u>6-29-94</u> Upon Incorporation <i>6/8/93</i>		
Procedure Revision Required <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO <i>6/8/93</i>		
Scope Limitation: <u>None</u>		

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
(1)	7 of 16	Section 6.2.1.1 4th Para	Add the following new line to the end of the paragraph.... Refer to the Environmental Management Radiological Guidelines (EMRG) 6.1, Performance Tests and Operational Checks for the Ludlum Model 12-1A and Model 31 Survey Instruments, for more information.
(2)	7 of 16 <u>9</u> <i>6/18/93</i>	Section 6.2.1.3' (new) <i>6/8/93</i>	<p>Insert after Section 6.2.1.3: 6.2.1.4 Monitoring with a Ludlum Model 31</p> <p><i>GM-# 6/18/93</i></p> <p>The Ludlum Model 31 count rate meter with a 442 pancake probe will be used as described in this subsection to monitor environmental material, samples, and equipment. Direct surface monitoring with a Ludlum Model 31 is a method of determining the presence and extent of beta/gamma radiological contamination. However, this method will not distinguish between fixed and removable beta/gamma radiological contamination.</p> <p>The preferable method of using the Ludlum Model 31 to monitor for surface contamination is to make slow sweeping movements over the surface of the object being screened. This is done by first establishing a background reading while holding the instrument 15 feet from the item being screened, then placing the probe within one-half inch of the surface and moving the probe no faster than 2 inches per second. If counts are detected on the surface, the probe is held over this area for at least 5 seconds and the counts are verified. <i>6-9-93</i></p> <p>Monitoring results greater than 5000 dpm/100cm² not as indicated by the Ludlum 31 will be considered indicative of the presence of radiological contamination on the surface. Net values are the subtraction of the background reading from the Ludlum Model 31 direct reading. Refer to Environmental Management Radiological Guidelines (EMRGs) 2.2, Performance of Surface Contamination Surveys, and EMRG 6.1, Performance Test and Operational Checks for Ludlum Model 12-1A, and Model 31 Survey Instruments, for more information.</p>

Justification (Reason for change - Provide numbers to reference corresponding items above.)

This SOP did not provide guidance for use of the Ludlum Model 31 or the Bicon Analyst FIDLER.

Concurrence	Organization	Req	Date	Concurrence	Organization	Req	Date
<i>[Signature]</i>	QAPM	X	<u>5/28/93</u>	<i>[Signature]</i>	User	Y	<u>6/7/93</u>
	EOM <i>6/25/93</i>			<i>[Signature]</i>	USER	Y	<u>6/7/93</u>
				<i>[Signature]</i>	EQS		<u>6/8/93</u>
	DOE <i>6/24/93</i>	X					

Approval of Responsible Manager <i>M.C. Broussard</i>	Date 6-1-93	Is Posting Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, by what date? <u>upon receipt</u>	Date Posted
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PER R.B. HOFFMAN, CLASSIFICATION OFFICE
JUNE 11, 1991

JUN 28 1993

DOCUMENT CHANGE NOTICE (DCN) (continuation sheet)

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DCN Number 93.02
SLD

Procedure Number 5-21000-OPS-FO.16 Rev. 2	Title Field Radiological Measurements		
Scope Limitation <u>None</u>			
Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
(3)	9 of 16	Section 6.2.1.5 (New)	<p>Insert after Section 6.2.1.4 (new section described it item #2 of this DCN):</p> <p>6.2.1.5 Monitoring with a Bicorn Fidler (Field Instrument for the Detection of Low-Energy Radiation)</p> <p>The Bicorn FIDLER is used in the work area to determine the presence of low-energy radiation sources. The Bicorn FIDLER with a Bicorn Analyst meter, with a scaler, and a Bicorn G-5 scintillation probe is used as described in this subsection to monitor environmental materials, samples, and equipment. However, this method will not distinguish between fixed and removable radiological contamination.</p> <p>Direct surface monitoring with a Bicorn FIDLER requires a background reading. This is done by holding the instrument 15 feet from the item to be surveyed and performing a one-minute scaler count. Once background is established, the item is screened by moving the instrument no faster than 2 inches per second within 12 inches of the surface. If counts are detected on the surface, the Bicorn FIDLER is held over the area and a one-minute scaler count is taken.</p> <p>Monitoring results greater than 2 times the square root of the background reading, plus the background reading, as indicated by the one-minute scaler reading, should be reported to the Site Safety Officer (SSO) so instruction on how the activity should be quantified can be given. Refer to the Environmental Management Radiological Guidelines (EMRGs) 6.6, Use of the Bicorn FIDLER (Field Instrument for the Detection of Low-Energy Radiation), for more information.</p>
Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above) (See Page 1)			